



**SOUTHWEST AIRLINES CO.**

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January 18, 1994

Dr. Don Hudson  
Aviation Medicine Advisory Service  
12000 E. 47th Avenue, No. 117  
Denver, CO 80239

Re: ARAC Flight/Duty/Rest Requirements Working Group

Dear Don:

Enclosed please find an additional copy of what became known as the "Southwest Proposal" presented at the October meeting of the Working Group held at our offices in Dallas, Texas, including the proposed Preamble. This submittal remains acceptable to Southwest Airlines Co. and Southwest Airlines Pilots Association.

Should you have any questions or require further information, please do not hesitate contacting either of us. We appreciate your efforts and consideration.

Southwest Airlines Co.

By: 

Barry S. Brown, Corporate Counsel

Southwest Airlines Pilots Association

By: 

Len Legge, Secretary/Treasurer

**121.471 FLIGHT TIME LIMITATIONS AND REST REQUIREMENTS:  
ALL FLIGHT CREWMEMBERS**

(a) No domestic air carrier may schedule any flight crewmember and no flight crewmember may accept an assignment for flight time in scheduled air transportation or in other commercial flying if that crewmember's total flight time in all commercial flying will exceed:

- (1) 1,000 hours in any calendar year;
- (2) 100 hours in any calendar month;
- (3) 30 hours in any 7 consecutive days;
- (4) 8 hours between required rest periods.

(b) A flight crewmember is not considered to be in violation of the flight time limitations set forth in paragraph (a), above, if the flights to which he is assigned are scheduled and normally terminate within the limitations but due to circumstances beyond the control of the air carrier (such as adverse weather conditions), are not at the time of departure expected to reach their destination within the scheduled time.

(c) No domestic air carrier may schedule a flight crewmember and no flight crewmember may accept an assignment for flight time without an actual rest period of at least 10 consecutive hours:

(1) During the 24 consecutive hours preceding the scheduled completion of any flight segment if the scheduled flight time is contained totally within the consecutive time period 0500 - 0259, inclusive, based upon the crewmember's domicile time; or

(2) During the 22 consecutive hours preceding the scheduled completion of any flight segment if the scheduled flight time is not contained totally within the consecutive time period 0500 - 0259, inclusive, based upon the crewmember's domicile time.

(d) The 10 hours prior rest required under paragraphs (c)(1) and (2) may be reduced in actual operation due to circumstances beyond the control of the carrier to a minimum of 9 hours if the flight crewmember receives a rest period of at least 11 hours beginning no later than 24 hours after the commencement of the reduced rest period.

(e) No domestic air carrier may assign, nor may any flight crewmember perform, any flight time with the air carrier unless the flight crewmember has

received the rest required by this section. A flight crewmember is not considered to be in violation of this subparagraph if, at the actual time of departure, the scheduled duration of the flight segment to which the flight crewmember is assigned would normally fall within the limitations of this subparagraph, but, due to circumstances beyond the control of the carrier which occur after departure, the flight does not reach the destination within the limitations of this subparagraph.

(f) Each domestic air carrier shall relieve each flight crewmember engaged in scheduled air transportation from all further duty for at least 24 consecutive hours during any 7 consecutive days.

(g) No domestic air carrier may assign any flight crewmember and no flight crewmember may accept assignment to any duty with the air carrier during any required rest period.

(h) Time spent in transportation, not local in character, that an air carrier requires of a flight crewmember and provides to transport the crewmember to an airport at which he is to serve on a flight as a crewmember, or from an airport at which he was relieved from duty to return to his home station, is not considered part of a rest period.

(i) Reserve: To provide an adequate, predictable and protected rest period to a flight crewmember on reserve status, unless alternative conditions are approved by the Administrator in accordance with the Preamble, flight crewmember reserve status shall be subject to the following:

(1) A 'standby reserve' is a flight crewmember who is required:

(a) to be at a location specified by the air carrier; or

(b) to report to a location specified by the air carrier on less than 2 hours notice.

Time spent subject to (a) and/or (b), above, is considered time engaged in scheduled air transportation and is not considered rest.

(2) An 'on-call reserve' is a flight crewmember who is required to report to a location specified by the air carrier on notice of 2 hours or more. If one of the following conditions is satisfied, an on-call reserve shall be considered at rest until report at a location specified by the air carrier:

(a) Each domestic air carrier shall provide each on-call reserve at least 8 consecutive hours of rest in any 24 consecutive hours. The rest period may not shift more than 3 hours UTC earlier or later than the preceding rest period, nor may it shift more than 8

hours in any 7 consecutive days. At a minimum, the air carrier must inform the flight crewmember at the beginning of each 24 hour period on reserve as to when the 8 consecutive hour rest period will occur, or

(b) A minimum of 10 hours of advance notice of assignment and the crewmember is released to rest, or

(c) Scheduled flight time to which the reserve is assigned is contained totally within 0600 - 0000 domicile time (inclusive), or

(d) The total sum of:

(i) on call reserve time and,

(ii) time engaged in scheduled air transportation

shall not exceed 18 hours if the flight time is contained within 0500 and 0259 domicile time, inclusive; and 16 hours if the flight time includes any flight time during and/or both before and after 0300 and 0459 domicile time. For purposes of calculating on call reserve time, the time period 0001 through 1000, domicile time, shall be excluded therefrom if, and only if, the flight crewmember is not contacted by, or required to contact, the air carrier during such period.

(3) If an air carrier complies with paragraph 2 (c) above, it may assign a flight crewmember to flight time which is scheduled to occur during the period of 0600 - 0000 hours, domicile time, subject to the flight time limitations and rest requirements of this section.

**MODIFICATIONS TO 14 CFR PARTS 121.471:  
FLIGHT CREWMEMBER FLIGHT TIME  
LIMITATIONS AND REST REQUIREMENTS**

**SUMMARY**

The proposed rewrite of 14 CFR 121.471 would amend the current rule regulating flight time limitations and rest requirements for flight crewmembers engaged in air transportation. The proposed rule is based upon discussions had and concerns expressed by the flight/duty/rest working group formed under the auspices of the Operations Council of the Aviation Rulemaking Advisory Committee, a working group composed of persons who represent the interests affected by the flight time rules. The proposed rule clarifies certain requirements that have had voluminous interpretations and updates certain requirements in relation to current operating conditions, addresses concerns regarding "back side of the clock" flying, and provides definition for flight crewmember reserve status.

**BACKGROUND**

Air crewmember fatigue is a fundamental factor of flight safety. The flight time limitation rules regulate the number of flight hours a flight crewmember may be scheduled for in a year, month, week, and in between rest periods and the frequency and length of rest periods that a flight crewmember must receive, in the interest of both individual and public safety. Studies of pilot fatigue, sleep, and circadian rhythms indicate that special attention should be given to flight activity which occurs during and/or both before and after the time period 0300 - 0459 (the "backside of the clock"). Additionally, major concerns were expressed regarding providing a

**predictable rest period for flight crewmembers serving on reserve status, that is, flight crewmembers without definitive flight time schedules, but subject to call by the air carrier to perform flight time.**

**Flight time limitation rules were amended in 1985 after having been virtually unchanged for the thirty years prior thereto. The most significant reasons for amending the 1985 Rule are:**

- 1. To clarify that flight crewmembers must not be subject to continuous duty assignments. Specifically, rest, in accordance with the rule, must actually be received by the flight crewmember, not merely scheduled;**
- 2. To provide that the flight crewmember flying during and/or both before and after the back side of the clock hours receives the rest required within a shorter period preceding the flight time; and**
- 3. To provide the flight crewmember with adequate, predictable, and protected rest while on reserve status, while, at the same time, preserving the flexibility of the air carrier in establishing reserve status procedures within economical cost parameters.**

#### **INTENT OF THE RULE**

**While there were numerous other issues discussed by the ARAC Working Group, it became apparent that, due to the multitude of variables involved, not all issues could be resolved. In focusing on the three major objectives -- eliminating continuous duty, addressing back side of the clock flying, and providing adequate and predictable rest to reserve status flight crewmembers --, however, the ARAC Working**

Group believes that a framework has been created by which the FAA can interpret and address these other issues.

### **GENERAL ISSUES**

In that the proposed rule reenacts a substantial portion of the 1985 Rule, the discussion of general issues in the preamble to the 1985 Rule (Federal Register, Vol. 50, No. 138, pages 29308 through and including 29315) remains pertinent and should be reemphasized, with the specific understanding that scheduled rest must actually be received by the flight crewmember, excepting only those specific instances where, for reasons beyond the control of the air carrier, the received rest is reduced, in which case, compensatory rest must follow. Additionally, interpretation of the 1985 Rule preamble must be modified to consider the elimination of the air carrier's ability to schedule flight time based upon reduced rest. The only manner in which a required rest period may be reduced is when such reduced rest results from operational circumstances beyond the control of the air carrier. The additional issues addressed by this proposed rule -- continuous duty, back side of the clock flying, and reserve status will be addressed in the following Section by Section Discussion.

### **SECTION BY SECTION DISCUSSION**

- **Section 121, Subpart Q -- Flight Time Limitations and Rest Requirements:**  
**Domestic Air Carriers --**

Subpart Q of Part 121 consists of Sections 121.470 and 121.471. No changes were made to Section 121.470. The following sections describe the proposed changes relative to the 1985 Rule and discuss the issues related to such changes.

● **Section 121.471 -- Flight Time Limitations and Rest Requirements: All Flight Crewmembers --**

(a) No changes are proposed for this paragraph.

(b) This paragraph substantially recodifies what is paragraph (g) of the 1985 Rule. The proposed rule relocates this paragraph for purposes of emphasizing and clarifying its applicability to paragraph (a). To further clarify this paragraph's applicability to paragraph (a), a specific reference to paragraph (a) is incorporated. The actual change to former paragraph (g) involves substituting the phrase "in violation of the flight time limitations set forth in paragraph (a), above," for the phrase "scheduled for flight time in excess of flight time limitations". This change is intended to clarify for the flight crewmember, as well as for the air carrier, that, in the event circumstances beyond the control of the air carrier occur which cause the flight crewmember to exceed the flight time limitations, no violation will be deemed to have occurred.

(c) The proposed modification of what was paragraph (b) of the 1985 Rule is intended to simplify the rest requirements by providing a ten consecutive hour rest period regardless of the total scheduled flight time. By eliminating the variable rest required dependent upon scheduled flight time, the calculation of rest required to be received becomes much simpler. The "looking back" concept adopted by the 1985 Rule is continued; however, the period of the look back is reduced from twenty-four consecutive hours preceding the scheduled completion of any flight segment to 22 consecutive hours preceding the scheduled completion of any flight segment under circumstances where the scheduled flight time is not contained totally within the



consecutive time period 0500 - 0259, inclusive. This shortened look back period addresses scheduled flight time which occurs during and/or both before and after the time period 0300 - 0459 by effectively limiting such a crewmember's duty period to twelve hours (thirteen hours due to circumstances beyond the carrier's control (under which circumstances a reduced rest period would result requiring compensatory rest pursuant to proposed paragraph (d), following)). (See Figure 1 for pertinent examples).

(d) Proposed paragraph (d) is intended to replace subparagraph (c) of the 1985 Rule. Proposed (d) allows for rest to be reduced to a minimum of nine hours in actual operation. Eliminated are the ability of the carrier to schedule based upon reduced rest as well as the ability, under any circumstances, to reduce rest below nine hours. Further, in the event a ten-hour rest period is reduced to nine hours, the immediately subsequent rest period received must be at least eleven hours, thereby providing compensatory rest to the flight crewmember.

In line with the simplification of 1985 Rule (b), the proposed modification simplifies what was subparagraph (c) of the 1985 Rule by allowing the rest period to be reduced only in actual operation. While some air carriers indicated that their current practices included scheduling based upon reduced rest, these carriers acknowledged that elimination of this ability would not materially, adversely impact their operations.

The ten-hour required rest period could be effectively reduced to nine hours in either of two ways. The first would involve the extension of the flight crewmember's duty period to fifteen hours after completion of the ten consecutive

hour prior rest period, thereby reducing the prior rest period to nine hours. The second would result when the flight crewmember's scheduled rest period was ten hours and the previous duty period's flight time extended up to one hour into the scheduled rest period. (See Figure 2). In either event, the flight crewmember must receive a minimum compensatory rest of 11 hours commencing no later than twenty-four hours from the commencement of the reduced rest period.

(e) Proposed paragraph (e) is a modification of what was subparagraph (c)(4) of the 1985 Rule. In the first sentence of this paragraph, the word "received" replaces the word "had" from subparagraph (c)(4) of the 1985 Rule. This change is intended to eliminate any ambiguity regarding the requirement that the flight crewmember must actually receive the applicable rest period prescribed by this section. Further, by making this a separate paragraph of the Section, the possibility of continuous duty assignment is eliminated.

The second sentence of proposed paragraph (e) is intended to address unanticipated, inflight delays to clarify that flight crewmember will not violate the requirements due to such a delay.

(f) Proposed paragraph (f) reenacts paragraph (d) of the 1985 Rule, without change.

(g) Proposed paragraph (g) reenacts paragraph (e) of the 1985 Rule, without change.

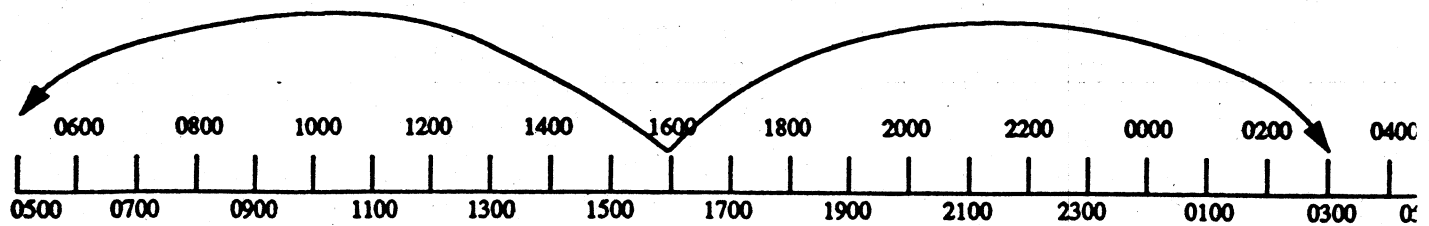
(h) Proposed paragraph (h) reenacts paragraph (f) of the 1985 Rule, without change.

(i) Proposed paragraph (i) is a new paragraph which addresses the two types of reserve flight crewmembers utilized in the domestic air carrier industry. The two primary purposes of this paragraph are (i) to assure that flight crewmembers on reserve status are provided an adequate, predictable, and protected rest period while on reserve; and (ii) to clarify when a reserve flight crewmember is considered "engaged in scheduled air transportation" vis a vis "at rest." A "standby reserve" is considered engaged in scheduled air transportation at all times. The intent of the definition of "standby reserve" is to include any flight crewmember whose time and/or location is materially restricted by the air carrier. Accordingly, in addition to those flight crewmembers subject to the express definition of "standby reserve," a flight crewmember who is required to phone crew scheduling frequently and regularly, such as every hour, must be considered on "standby reserve," and therefore, not "at rest." An "on-call reserve" is a flight crewmember whose activities are not materially restricted by the air carrier, and an "on-call reserve" is considered at rest so long as one of the conditions set forth in subparagraph (2) of paragraph (i) is satisfied.

Further flexibility is provided to the air carrier to apply to the Administrator for approval of other conditions not specified in this section. The absolute prerequisite for approval of other conditions is that an adequate, predictable, and protected rest period must be provided regardless of the alternative. An example of such an alternative would be provision by the carrier to the flight crewmember of an adequate and reliable reserve and flight scheduling information system which would allow an on-call reserve flight crewmember to plan for a flight time assignment or to anticipate, under normal circumstances, when a flight time assignment will

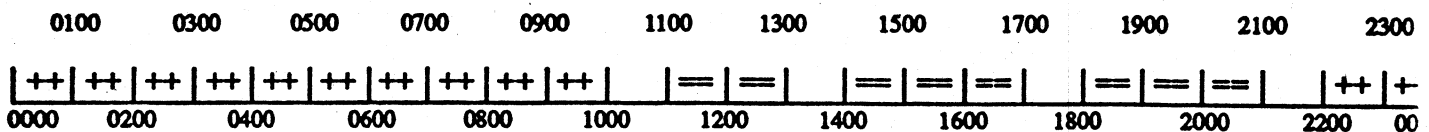
occur. Further, the air carrier must keep foremost in its operations the obligation of a flight crewmember pursuant to 14 C.F.R. Section 91.13(a) to notify the air carrier if the flight crewmember is so fatigued that he is not capable of safely operating an aircraft.

If the Flight Time is within 0500 - 0259, consecutive, Lookback is 24 hours from scheduled flight completion.

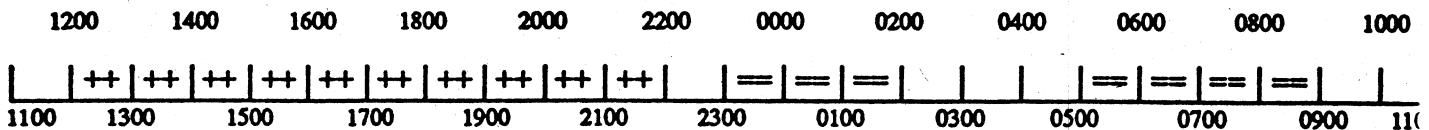


Otherwise, lookback is 22 hours from scheduled flight completion.

24 Hour Lookback: Scheduled Flight Time Completion: 24 hour Lookback from 2100: 10 hours consecutive r 0000 - 1000 ∴ LEGAL:



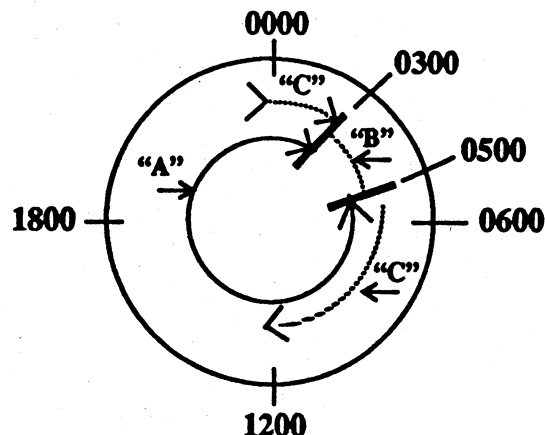
22 Hour Lookback: Scheduled Flight Time Completion 0900, But commencing prior to 0300 ∴ Not with 0500 - 0259, consecutive, Lookback 22 hours:



[+] Rest (received)

[=] Scheduled Flight Time

24 Hour Clock:

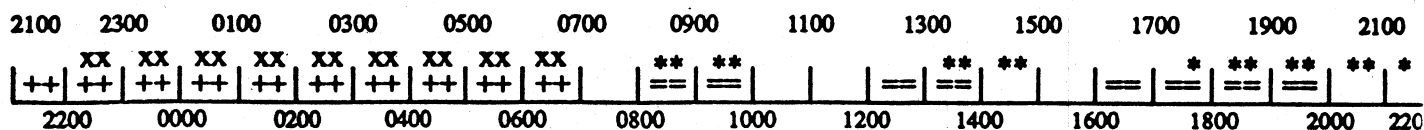


"A" - Flight Time totally contained within 0500-0259, consecutive, requires 24 hour lookback for receipt of 1 hours REST.

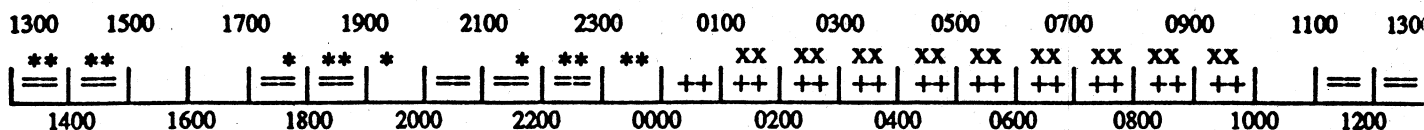
"B" and "C" - Flight Time Touches "B" or contained in "C", (that is, not totally contained within 0500-0259 consecutive) requires 22 hour Lookback for Receipt of 10 hours REST.

FIGURE 1

- #1 Scheduled & Received Rest - 2100 - 0700  
 Scheduled Flight Time Completion - 2000  
 Actual Flight Time Completion - 2200. 24 hour Lookback renders  
 Received Rest 2200 - 0700 = 9 hours •• 11 hour compensatory rest must commence by 2200 on day two



- #2 Scheduled Flight Time Completion - 2300  
 Actual Flight Time Completion - 0030  
 Scheduled REST (10 Hours) - 0000 - 1000  
 Actual REST (9 Hours) - 0100 - 1000 •• Flight Crewmember may accept assignment commencing 1100 day two but must receive 11 hour compensatory rest commencing no later than 0100 day three.



- [++] Scheduled Rest  
 [=] Scheduled Flight Time  
 [xx] Received Rest  
 [\*\*] Actual Flight Time

FIGURE 2